REMARKS

Claims 1-4, 6-9, 11-17, 20-21, 24, 26, 29, 31-34, 37-38, 40-41, 44-46, and 49-53 are amended. No new matter is added by these amendments. Claims 1-55 are pending. Applicant respectfully requests reconsideration and allowance of all claims in view of the amendments above and the remarks that follow.

Objections to the Title

The title is objected to. The title is amended as required by the Office Action.

Claim Rejections under 35 U.S.C. 101

Claims 1-55 are rejected under 35 U.S.C. 101 because they "disclose a claimed invention that is an abstract idea."

Applicant respectfully traverses these grounds for rejection because claims 1, 6, 11, 16, 21, 26, 31, 34, 38, 44, 49, and 53 all recite: "stopping execution of the program," which is a tangible result. Claims 2-5, 7-10, 12-15, 17-20, 22-25, 27-30, 32-33, 35-37, 39-43, 45-48, 50-52, and 54-55 are dependent on claims 1, 6, 11, 16, 21, 26, 31, 34, 38, 44, 49, and 53, respectively, so they also have a tangible result.

Claims 11-15, 31-33, and 49-52 are rejected under 35 U.S.C. 101 because the claims "are 'signal bearing medium encoded with instructions'." Claims 11-15, 31-33, and 49-52 are amended to recite a storage medium, which is statutory subject matter.

Claim Rejections under 35 U.S.C. 112

Claims 26-30 are rejected under 35 U.S.C. 112 because "no function is specified." Applicant respectfully traverses these grounds for rejection for the reasons argued below.

Claim 26 recites a "means for saving," a "means for selecting," a "means for determining," a "means for stopping," and a "means for allowing." Saving, selecting, determining, stopping, and allowing are functions, so claim 26 specifies functions.

Claims 27-30 are dependent on claim 26, so claims 27-30 incorporate the functions of claim 26. Thus, claim 26-30 meet the requirements of 35 U.S.C. 112.

Rejections under 35 U.S.C. 102 and 103

Claims 1-25, 34-37, 53-55 are rejected under 35 U.S.C. 102(b) as being anticipated by Serra (USPN 6,226,787). Claims 26-33 and 38-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Serra in view of DaSilva (USPN 6,493,868). Applicant respectfully submits that the claims are patentable over the references because all of the claim elements are not taught or suggested by the references for the reasons argued below.

Claim 1 recites: "saving a plurality of values for a variable after a respective plurality of encounters of a breakpoint by a program that modifies the variable; selecting one of the plurality of values based on a condition; determining whether to stop execution of the program at the breakpoint based on the one of the plurality of the values." Thus, stopping execution of the program at a breakpoint is conditional on a value of a variable that was previously saved.

In contrast, Serra at column 3, lines 34-37 recites: "[U]sers may set a breakpoint at a particular node. When the execution path of a thread reaches the breakpoint, execution of the program stops until the user indicates that the execution is to continue." Thus, Serra has no notion of a conditional breakpoint. Instead, the Serra breakpoints are unconditional because every time that the Serra program encounters the Serra breakpoint, the Serra program stops.

The Office Action relied on Serra at column 11, lines 22-28, which recites: "[T]he visualizer allows users to disengage individual nodes, parts of a subgraph, whole subgraphs, or whole programs. ... If a node or part of a subgraph is disengaged, events belonging to the disengaged node or part are not sent to the visualizer 38." But, the fact that the Serra visualizer does not receive events if a node is disengaged does not change the unconditional nature of the Serra breakpoints because the Serra visualizer 38 is not

responsible for breakpoints. Instead, the Serra visualizer 38 is responsible for "access[ing] a run-time representation ... and display[ing] the representation." (Serra at column 5, lines 29-30.) Thus, if the Serra visualizer 38 does not receive events because a node is disengaged, the Serra visualizer 38 does not display the representation, which has no impact on the breakpoints.

Instead of the Serra visualizer 38, it is the Serra graph manager 40 and the Serra debugger that are responsible for breakpoints, as explained in Serra at column 1, lines 51-52: "The debugger may be used to monitor software as it is executed" and as explained in Serra at column 5, lines 47-48: "The graph manager 40 may also be used to set breakpoints at any node of the graph."

Thus, Serra does not teach or suggest "saving a plurality of values for a variable after a respective plurality of encounters of a breakpoint by a program that modifies the variable; selecting one of the plurality of values based on a condition; determining whether to stop execution of the program at the breakpoint based on the one of the plurality of the values," as recited in claim 1 because Serra only has unconditional breakpoints.

DaSilva at column 17, lines 43-48 describes a conditional breakpoint that has an expression that is evaluated. But, Dasilva does not describe the contents of its expression. Thus, DaSilva does not teach or suggest "saving a plurality of values for a variable after a respective plurality of encounters of a breakpoint by a program that modifies the variable; selecting one of the plurality of values based on a condition; determining whether to stop execution of the program at the breakpoint based on the one of the plurality of the values," as recited in claim 1.

Thus, Serra and DaSilva, alone or in combination, do not teach or suggest all of the elements of claim 1.

Claim 2 recites: "finding the one of the plurality of values that is associated with a time that the breakpoint was encountered, wherein the condition specifies the time,"

which is also not taught or suggested by Serra and DaSilva because Serra only has unconditional breakpoints and the conditional breakpoints of DaSilva have no concept of a condition that specifies a time.

Claims 6, 11, 16, 21, 26, 31, 34, 38, 44, 49, and 53 recite similar elements as argued above for claim 1 and are patentable over the references for similar reasons. Claims 7, 12, 17, 40, 45 and 50 recite similar elements as argued above for claim 2 and are patentable over the references for similar reasons. Claims 2-5, 7-10, 12-15, 17-20, 22-25, 27-30, 32-33, 35-37, 39-43, 45-48, 50-52, and 54-55 are dependent on claims 1, 6, 11, 16, 21, 26, 31, 34, 38, 44, 49, and 53, respectively, and are patentable over the references for the reasons argued above.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is requested. The Examiner is invited to telephone applicant's attorney (651-645-7135) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 09-0465.

Respectfully submitted,

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By their Representative,

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CERTIFICATE UNDER 37 CFR 1.8: I hereby certify that this correspondence is being transmitted via facsimile to the Commissioner for Patents 571-273-8300, on April 2, 2007.

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